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09/806,646	06/22/2001	Michael Benz	12758-024001	3045

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EXAMINER

JACKSON, BLAINE J

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 08/14/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,646

Applicant(s)

BENZ ET AL.

Examiner

Blane J Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 3-8, 15, 17-23 and 25-30 is/are rejected.
- 7) ☒ Claim(s) 16 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

- 10/98
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209).

As to claims 3 and 4, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station (mobile unit in the embodiments) and a second radio (base) station including receiving transmissions of the second radio station at the first radio station, determining a transmission power correction instruction that corresponds to a first transmission power of the second radio station, the transmission power correction instruction comprising a variable power adjustment increment and evaluating over time a condition of transmission comprising a speed of movement of the first (the mobile station) or second radio station. Tiedmann further teaches transmitting the transmission power correction instruction to the second radio station during a transmission of the first radio station, adjusting a second transmission power of the second radio station according to the transmission power correction instruction (figure 2, column 4, lines 39-65 and column 9, lines 3-19). Tiedmann is not specific as to where the variable power adjustment

increment (delta E) is greater in a medium range of speed than in a high or low range of speed. However, Tiedmann teaches the base station will vary the value of the incremental change based on the velocity of the mobile station where the value is determined algorithmically in the control processor (column 9, lines 14-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to program the power increment step size of Tiedmann in accordance for best link performance as dictated by the effects of the signal from the moving mobile station.

3. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209) with a view to Fujita (U.S. Patent 6,128,476). *Pearson 5,487,174*

As to claims 5-8, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station and a second radio station that receives transmissions of the second radio station at the first radio station, determines a transmission power correction instruction that corresponds to a first transmission power of the second radio station, the transmission power correction instruction comprising a variable power adjustment increment. Tiedmann further teaches evaluating over time a condition of transmission between the first radio station and the second radio station, transmitting the transmission power correction instruction to the second radio station (base station) during a transmission of the first radio station and adjusting a second transmission power of the second radio station according to the transmission power correction instruction ((column 4, line 39 to column

6, line 52). Tiedmann teaches that the condition of transmission is the velocity of the mobile station will cause signal fading where a power adjustment increment varies in accordance to the effect of the velocity of the mobile station (column 8, line 50 to column 9, line 19). Tiedmann does not teach the condition of transmission comprises one or more of a number of transmitting antennas and a number of receiving antennas used to establish communication between the first radio station and the second radio station.

Persson teaches methods in a CDMA cellular mobile network where a plurality of base station (antennas) used during the process of soft hand off effects the system power control decisions (figure 1 and column 5, lines 26-35). Persson further teaches the

base station that receives signals substantially stronger than the other base station ^{Col 16 - 17}
^{Col 10, lines 37-48 15-40} determines the control indicator to direct the output power of the mobile. It would have been obvious to one skilled in the art at the time of the invention to include in the power control methods of Tiedemann the effect of a plurality of base stations (number of antenna based sources) involved with the process of soft hand-off as taught by Persson to also direct accurate incremental power control of the mobile station.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15, 19-23 and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Tiedmann, Jr. et al. (U.S. Patent 6,035,209).

As to claim 15, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station and a second (base station in the embodiment) radio station including receiving transmissions of the second radio station at the first radio station, evaluating over time a condition of transmission between the first radio station and the second radio station, detecting a change in the condition of transmission, determining a transmission power correction instruction that corresponds to a transmission power of the second radio station, the transmission power correction instruction comprising a variable power adjustment increment (ΔE) and changing the power adjustment increment in response to a change in the condition of transmission (column 4, line 39 to column 6, line 52).

Tiedmann teaches, with reference to claim 3, where the base station knows the velocity of the mobile station (a method of determination over time) and will vary the value of the incremental change in transmission energy, ΔE , in accordance with this velocity (column 8, line 50 to column 9, line 19). Tiedmann further teaches transmitting the transmission power correction instruction to the second radio station during a transmission of the first radio station and adjusting the transmission power of the

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second radio station according to the transmission power correction instruction (column 4, lines 39-65).

As to claim 19, Tiedmann teaches a CDMA transmission protocol over a broadband transmission channel for transmission between the first radio and second radio station (column 4, lines 51-56).

As to claims 20 and 21, Tiedmann teaches where the first radio station is a base station and the second radio station is a subscriber station or the first radio station is a subscriber station and the second radio station is a base station (column 4, lines 56-65).

As to claim 22, Tiedmann teaches where detecting a change in the condition of transmission includes changing the power adjustment increment in accordance with one of a correspondence table and calculation rule lining different transmission conditions with different power adjustment increments (column 9, lines 14-19).

As to claims 23, Tiedmann teaches a system for controlling a transmission power of a radio link including a first radio station (mobile or subscriber unit) that receives a first transmission from a second radio station that detects a change in a condition of transmission from the second radio station and evaluates a condition of the first transmission and determines a transmission power correction instruction, the transmission power correction instruction including a variable increment of power

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adjustment (motion by the mobile station, column 8, line 50 to column 9, line 19) and transmits the power correction instruction to the second radio station from the first radio station. Tiedmann further teaches a second radio station which receives the transmission power correction instruction of the first radio station which transmits a second transmission from the second radio station to the first radio station and adjusts a transmission power during the second transmission (column 4, line 39 to column 6, line 52).

As to claim 27, Tiedmann teaches a CDMA transmission protocol over a broadband transmission channel for transmission between the first radio and second radio station (column 4, lines 51-56).

As to claims 28 and 29, Tiedmann teaches where the first radio station is a base station and the second radio station is a subscriber station or the first radio station is a subscriber station and the second radio station is a base station (column 4, lines 56-65).

As to claim 30, Tiedmann teaches where detecting a change in the condition of transmission includes changing the power adjustment increment in accordance with one of a correspondence table and calculation rule lining different transmission conditions with different power adjustment increments (column 9, lines 14-19).

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6. Claims 17, 18, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209) with a view to Fujita (U.S. Patent 6,128,476).

As to claims 17, 18, 25 and 26, Tiedmann teaches detecting a change in transmission comprising the velocity of the mobile unit results in an adjustment in the incremental power change (column 9, lines 14-19) but does not teach detecting a change in the condition of transmission comprises a change to one or more of a number of transmitting antennas and a number of receiving antennas being used during transmission between the first and the second radio stations.

Fujita teaches a transmitting diversity circuit for a cellular system where one or a combination of four antennas is selected for transmissions according to the intensities of received field strength contributed by each (figure 4, column 5, line 54 to column 6, line 50). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize antenna diversity methods in the system of Tiedmann as taught by Fujita to effect link quality and scale required transmission power through a choice of transmission antenna(s).

Allowable Subject Matter

7. Claims 1 and 2 are allowed. The prior art made of record does not teach a method of controlling power in a radio communication system where evaluating over time a condition of transmission between a first and second radio station, the condition comprising an interruption of transmission between the first and second radio stations

determines a transmission power correction instruction comprising a variable power adjustment increment being adjustable by the first and second radio station in a subscriber and time dependent manner.

Claims 16 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gilhousen et al. (U.S. Patent 5,485,486) teaches a power control system for a cellular CDMA mobile telephone system where a command signal is generated and transmitted for further adjusting the mobile or base station unit transmitter power corresponding to deviations in the cell site received signal power where the power increment is generally 1 dB and not adjustable. Hamabe et al. (U.S. Patent 6,351,651) teaches power control during soft handoff for a mobile communication system.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J Jackson whose telephone number is (703) 305-

5291. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (703) 305-4385. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 812-9314 for regular communications and (703) 812-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

BJJ
August 8, 2003


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
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